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DRILL FOR 6-INCH Q.F. GUN.

(LAND SERVICE.)

1914.



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DETACHMENT.

The detachment consists of a Gun Captain, a Rocking Bar Layer, an Auto-Sight Layer, a Setter for Range, a Setter for Training (to assist at Case III), and eight other gun numbers. It falls in and is told off in the usual manner.

G.C.	A.L.	R.B.L.	9	7	5	3	Front rank.
	Setter (Training).	Setter (Range).	8	6	4	2	Rear rank.

After telling off, if the weather is cold, all men are warned to keep their hands as warm as possible, as cold hands lead to slow rates of fire.

NOTE.—Two of the gun numbers are taken from the 66 $\frac{2}{3}$ per cent. spare.

AMMUNITION SUPPLY.

From Recesses. (Normal method.)

Cartridge recesses are on the emplacement floor. The cartridges are removed from their boxes by 6 and 8 who hand them up to 3 and 5 on the gun floor.

Projectile recesses are on the emplacement floor. Projectiles are kept unfuzed in peace time, but on hostilities becoming imminent, and during hostilities, the recesses are kept filled with fuzed shell.

7 and 9 lift projectiles on to the gun floor for 3 and 5. With *Lyddite shell* 7 and 9 unpin before placing them on the gun floor, 3 and 5 uncap. Fuze caps should be thrown into a bucket or other receptacle to prevent their littering up the gun floor.

From Depôts.

Cartridge and projectile depôts are arranged in the most sheltered places on the level of the emplacement floors. Supply from depôts is similar to that from recesses.

The above forms of supply must be made intelligently, as the gun is traversed, from the most convenient recess or depôt.

NOTE.—A proportion of cartridges should be prepared for percussion firing (i.e., if electric primers are being used they should be fitted with adapters) and placed on one side.

Lift Supply from Magazines and Shell Stores.

7 and 9 go below, and, with six additional numbers (ammunition detail), supply and work the lifts.

Cartridges. As there is no lift supply for cartridges, 6 and 8 supply them as at recess or depôt supply.

Projectiles are sent up to the gun floor, cleaned, fuze and with grummetts removed; 3 and 5 pick them up and load alternately. With *Lyddite shell* 3 and 5 unpin and uncap before picking them up. Caps, as at recess supply, should be thrown into a bucket or other receptacle.

Empty cartridge cases are removed and stacked during any pauses in the firing.

NOTE.—*At the commencement of an action if a rapid rate of fire is not required, it may be desirable to use lift supply when the men are fresh and no casualties have occurred. This reserves the supply in recesses and depôts till a later period, when fire will be more rapid, casualties may have occurred, and men have begun to tire.*

TO PREPARE FOR ACTION.

G.G.C. details which detachment or detachments will be responsible for taking up *Group and Battery stores*, and orders "*A Group, Prepare for Action*," the **G.C.** marches the detachment to the store and supervises the issue of the following stores :—

G.G.C. provides himself with and takes up the gauge protrusion striker and instrument testing primary batteries or volt-ammeter. (The latter is a "*Battery store*.")

NOTE.—*Where there is more than one group in the battery the senior G.G.C. will take up the instrument testing primary batteries or volt-ammeter. He will also detail one of his detachments to take up the Battery stores.*

G.C. No stores.

Rocking Bar Layer. Rocking bar sight bar, and telescope.

Auto-sight Layer. Auto-sight sight bar, and telescope.

Setter for Range. Pistol grip and range dials (if not on mounting).

Setter for Training. Training dial (if not on mounting) and convergence table, if required.

2. Tray stores complete, electric and percussion tubes, spare leads and lanyards and waste. For drill a drill tube.

3. Kneecaps and drill cartridge, with primer and adapter.

NOTE.—*This drill cartridge is taken up at all times for carrying out the "Safety and Efficiency Test" of the striker.*

4. Rammer and sponge cloth.

5. Assists 4.

6 and 8. Keys of cartridge and shell recesses and shell lift. Brace magazine and bit, 1 key No. 24 adapter or primer, 1 key No. 25 adapter or primer, and cartridge holder. For drill a drill cartridge and drill primer or adapter.

7 and 9. Grease box, brush, 2 keys No. 5, 2 keys No. 8 (when required). For drill, a drill shell and shell extractor.

NOTE.—The Auto-sight Layer and Setter for Range will take up and set in position the electric firing battery, if not already on the mounting.

Tray of Stores. (Gun.)

(Taken up by 2 with his gun stores.)

Contents of tray, stores :—	Number.
Boxes, tube, garrison (1 to hold spare parts) ...	2
Can, lubricating, No. 9	1
Chalk, piece... ..	1
Extractor, cartridge, hand, Q.F., large ...	1
Lanyards, side firing, No. 7	2
Screwdriver, G.S., 4-inch	1
" No. 13	1*
Spanner, No. 188	1*
" McMahon 15-inch	1
Striker, E. and P.	1
Wrench, Breech Mechanism, No. 65	1
" " " " 66	1
" " " " 67	1
" " " " 78	1

Group Stores.

(Taken up by 3 after he has taken up his gun stores.)

Hammer, claw, 28 oz.	1
Pliers, side-cutting, 8-inch ... pairs	1
Rammer	1 per gun.
Whistle	1

Battery Stores.

(Taken up by 4 after he has taken up his gun stores.)

Bar testing sight	1 per work.
Buffer, syringe	1 "
Clinometer, large	1 "
Instrument, testing primary batteries or volt-ammeter	1 "

NOTE.—The instrument testing primary batteries or volt-ammeter is taken up by the senior G.G.C. in the battery.

* Allowed in the proportion of 1 per work.

The **G.C.** then marches his detachment to the gun, and on arrival at the emplacement floor all stores are put down, and the detachment stands round and uncovers the gun. **2** removes breech cover, **3** muzzle cover, and the remainder the gun cover. After this has been done "*Detachment Rear*" is formed.

If Instructional Drill is being carried out the G.C. then orders "Action" and the numbers double to the positions in "Action."

Positions in Action.

G.C. on the left side of the rammer.

Layers and Setter for Range on sighting steps, or if the method of laying has been ordered at the positions detailed afterwards for that method of laying.

Setter for Training at the training dial.

2 in rear of gun in prolongation of right side of gun, left foot in front, facing **Auto-sight Layer**.

3 close up to breech on left side and facing **2**.

4 in rear of **2**, right foot advanced, extractor in his left hand.

5 to rear of **3**.

6, 7, 8, and 9 at recess, depôt, or lift as ordered.

NOTE.—*If for physical reasons 4 is considered a better "Rammer number" than the G.C., the positions of G.C. and 4 may be reversed, and in action 4 will ram and the G.C. extract empty cartridge cases.*

Detachment rear will then be formed.

The **G.C.** then orders "*A. 1, Prepare for Action.*"

Preparation of the Gun for Action.

G.G.C. During the preparation of the gun for action the **G.G.C.** personally examines the stud on the breech screw, and makes sure that it is sound.

NOTE.—*A faulty stud may cause an accident if resort is made to percussion firing.*

He personally examines and gauges the protrusion of all the strikers (including spare) in his group.

NOTE.—*To examine the striker, disconnect the lead from the striker, open the breech and take out the striker. See that the striker is correctly assembled, insulating washers in position, needle nuts tightened up, cocking handle screwed home and secured by keep pin. Replace the striker and see that the point of the needle is within the face of the breech screw. Connect up the lead to the striker again.*

To gauge the protrusion of the striker. With the breech still open release the catch retaining breech screw by hand, and turn the screw into the locked position. Pull the striker to the rear with only just sufficient force to take up any clearance due to wear in the thrust collars, and apply the "gauge protrusion striker."

He tests the pistol grip and measures the voltage of the circuit at the point of the striker with the I.T.P.B. or volt-ammeter with the pistol grip in each of its three positions, the G.C. marking in chalk the voltage obtained, on the right side of the gun when the pistol grip is on the right side, on the left side when the pistol grip is on the left side, and on the shield when the pistol grip is in the Case III position.

NOTE.—Should the voltage be less than 1, the battery will be tested cell by cell, and the bad cell or cells made good, or removed and replaced by fresh cells.

If either of the sights or the elevation indicator is reported out of adjustment, the G.G.C. supervises its adjustment.

Gives orders to the ammunition numbers with regard to the arrangement and disposal of cartridges and projectiles.

Supervises the checking of range and training dials.

G.C. satisfies himself that the buffer is properly connected up, not leaking at the glands, and contains the correct amount of oil, and that the running out rods are properly secured; that the capsquares are properly secured, and that the lubricators on top of the cradle are filled with oil. He marks the corrections for group difference and racer corrections, in the most convenient positions for the **Setter for Range** to see and read them, and includes "gun correction" if ordered.* He supervises the work of the rest of the detachment.

NOTE.—All breech numbers must be warned that under no circumstances may the striker be snapped unless a cartridge, adapter and tube, or fired or drill tube are in the gun. Should it be necessary to ease springs it should be done gently by hand. Also that the breech of the gun, if empty, must be closed gently.

Layers fix their sights in the cradle and see that they fit and work properly, and that the sight carriers or brackets are firmly attached to the mounting; test the sights and elevation indicator, and, if they are found out of adjustment, report to the G.G.C., and, under his supervision, readjust. See that the elevating and traversing gears are oiled and in good working order. Connect up and examine the electric firing circuit, and tighten up and examine all binding screws, terminals, spare leads and contacts.

Setter for Range. Places pistol grip in position; uncovers or places in position the range dials, sees that they are properly connected up and checks them under the supervision of the G.G.C. Assists the **Rocking Bar Layer**.

Setter for training. Uncovers or places in position the training dial, sees that it is properly connected up and checks it under the supervision of the G.G.C. Assists the **Auto-Sight Layer**.

* Gun corrections, if ordered, are normally applied on electric range dials. If range indicator dials are being, or are likely to be used, it may be convenient to show them with group difference and racer corrections.

2 hands the electric tubes to the Cartridge numbers (only if adapters and electric tubes are being used).

Fills the percussion tube box and attaches it to the left side of the mounting in a convenient position for use.

Places the spare leads on the right side of the mounting in a convenient position for use.

Tests the lanyards and attaches them loosely to the left side of the mounting.

Opens the breech by taking hold of the lever with his right hand and pulling it towards him as far as it will come. Examines the breech screw and threads of the breech, sees that they are clean and free from burrs, and lubricates the threads with a slight film of oil. Lubricates the breech mechanism thoroughly and places the striker in position.

Places the cartridge extractor on the gun floor under the breech, his oil can and waste in a convenient position on the right side of the mounting, and the remainder of his stores in a convenient position under cover in the tray of stores.

The breech is left in the open position.

3 gives each gun floor number a knee-cap, and places the drill cartridge (with primer and adapter) on the gun floor to the left rear of the breech.

Brings up the *Group Stores* and places them where ordered.

Assists 2 at lubricating the breech mechanism.

4 places the rammer in rear of the breech, head to the front.

Brings up the *Battery Stores* and places them where ordered.

5 assists 4 to place the stores they have brought up and then assists the G.G.C.

6 and 8 unlock recesses and lift.

Prepare to issue cartridges from recesses or dépôts as ordered.

A proportion of the cartridges should be prepared for percussion firing in case of breakdown of electric firing. For drill they place the drill cartridge in a convenient position for use.

NOTE.—Cartridges should always be examined, cleaned of all luting, and gauged in the guns in which they are going to be used.

7 and 9 prepare to issue projectiles from recesses or dépôts as ordered. The projectiles are fuzeed, cleaned, and their grumnets are removed if not already done. 7 hands a fuze key to 3 or 5. At lift supply they go below, 7 to the shell lift and 9 to the shell store.

For drill they place a drill shell and extractor in a convenient position for use.

After each number has completed his work he takes post at his position in "Action."

Reports.

The G.C., when he sees that the work has been completed and the numbers in their positions in "*Action*," calls his detachment to "*Attention*," and collects reports as follows:—

G.C. "A. 1, *Attention—Reports—Two*." 2, "*Correct*" or otherwise. "Three," 3 "*Correct*" or otherwise, and so on through the whole detachment, finishing with the *Layers* and *Setters*.

He then points out to his detachment the position of the *Battery, Group, and Gun Stores*, sees that the bore is clear, and orders his detachment under cover.

The numbers double and sit on the forms on the emplacement floor.

Positions under Cover.

Extractor No. and 2 on right of gun.

Rammer No. 3 and 5 on left of gun.

6, 7, 8, and 9 in rear of gun.

Layers and *Setters* according to method of laying.

The G.C. sits his detachment at ease, and reports to the G.G.C.

"A. 1, *Bore Clear, Ready to Load*."

The G.G.C., when he has finished his work, goes to the gun and says to the G.C. "*I will inspect A. 1*." On this the G.C. calls his detachment to attention, and gives the order, "*Layers, 2 and 3, Action*." The G.C., *Layers*, 2, and 3 double to their positions in "*Action*."

INSPECTION BY G.G.C.

The G.G.C. makes sure that the *Recoil, Laying, Firing*, and *Ammunition* arrangements of the gun are correct, by asking the numbers, and by inspection, if necessary.

He then orders 3 to load a drill cartridge fitted with an electric primer, or adapter and electric tube, the *Layer* to press the trigger firmly, and 2 to close the breech by pushing the lever from him with his right hand until the breech screw is locked, *i.e.*, when the lower stud on the turning lever of the safety stop is halfway down the safety bracket on the lever breech mechanism. In this position, the primer (or tube) should not fire, as the striker is held back from making contact with the primer (or tube) by the action of the safety stop. The final movement of the lever in fully closing the breech should fire the primer (or tube). 2 opens the breech and G.C. extracts the cartridge, using the extractor with his left hand. The fired electric tube is then extracted, or, if a primer has been fired, an adapter is fitted.

The G.G.C. then orders 3 to reload, and 2 to close the breech and open it again, taking care not to work the (gun) extractor. He orders 3 to insert a percussion tube in the adapter, and 2 to close the breech carefully. He then orders 2 to cock the

striker, and 3 to hook the lanyard, and fire the tube. 3 then unhooks and the breech is opened, the cartridge extracted and the chamber thoroughly cleaned.

After the inspection the G.C. orders "*Layers 2 and 3 Under Cover*," and sits his detachment at ease.

NOTE.—All spare strikers should in addition be submitted to the foregoing tests under the G.G.C.'s supervision, and the drill cartridge placed clear on one side.

The breech of an unloaded gun is left open unless the G.G.C. orders it to be closed, e.g., when loading will not take place for some considerable time.

The G.G.C. then reports, "*A Group, Ready to Load*," or if he has previously been ordered to load, he orders the guns to be loaded and reports, "*A Group, Ready for Action*."

G.G.C.'s Orders.

The orders "*Stand Fast*," "*Action*," "*Under Cover*," "*Fire A. 1*," or "*A Group, Commence Firing*" are never repeated but are acted upon at once.

All other orders must be repeated or be followed by an executive order from the G.C.

ACTION.

G.G.C.		G.C.
" <i>A Group, Action</i> ."	

All numbers double to their positions in action.

Test Circuit.

G.G.C.		G.C.
" <i>A Group, Test Circuit</i> ."		" <i>A. 1, Test Circuit</i> ."

2 opens the breech, if closed, short circuits the striker to some part of the gun, and calls "*Test*," the layer presses the lever indicator, and, if there is a deflection, calls "*Correct*"; if there is no deflection, he calls "*No Circuit*."

If there is no time to overhaul the circuit, the G.G.C. orders "*A. 1, Change to Percussion*."

NOTE.—This test is only necessary when guns have been prepared for action some considerable time before the order to load is given.

LOAD.

G.G.C.		G.C.
A Group.....Load."		"A. 1.....Load."

NOTE.—The G.G.C. does not give this order until the numbers are standing steady in their places, or until the circuits have been reported correct.

Electric firing.—

2 opens the breech if it has been closed by taking hold of the lever breech mechanism with his right hand and pulling it towards him as far as it will come.

7 or 9 places projectile on gun floor.

NOTE.—When loading Lyddite shell, the safety pin is withdrawn during supply from recesses or depots by 7 or 9 before lifting shell on to gun floor. At lift supply 3 or 5, before picking up shell, removes the safety pin and uncaps the fuze.

3 uncaps fuze, picks up projectile, keeping C.G. supported on his left arm and steadying base with his right hand, fist clenched. As breech screw swings open, he slides projectile into chamber by leaning forward, and swings round on his hips to his right to receive cartridge handed to him by 5, who has received it from 6.

NOTE.—6 holds the cartridge at the ends, his right hand over the primer or adapter, and hands it to 5.

5 takes the cartridge holding it underneath, hands separated, and with the primer or adapter towards his left, and hands it to 3.

3 takes the cartridge holding the primer or adapter between the thumb and forefinger of his right hand, his left hand underneath at the centre of the cartridge.

G.C. rams home in one motion, outer hand back up, inner hand back down. Withdraws rammer smartly and stands by to ram next round, with rammer head just clear of recoil.

NOTE.—Detachments should be sufficiently trained on the loading teacher so that one man can ram home properly. 3 and 5 must slide the shell into the bore and the rammer head must meet the base of the shell before the shell has come to rest. If during a series the rammer number tires he will at once call "Change" and change places with the extractor number.

3 loads cartridge and gives "In."

2 then closes the breech with his right hand, assisted, if necessary, by 4 and calls "Ready."

At "Battery Fire" the breech is not fully closed nor "Ready" called until "Fire A 1" has been ordered by the G.G.C.

3 after loading steps back. 5 closes up with projectile. 3 receives cartridge from 6 and stands to right rear of 5 ready to hand cartridge to him. In this way 3 and 5 load alternately.

Percussion firing.—

NOTE.—*At percussion firing the lead to the striker should be detached as it may cause a missfire.*

As above with the following exceptions:—

After 3 or 5 has entered the cartridge with adapter, but with no tube, 2 closes the breech to ascertain that the charge is home, then opens the breech carefully so as not to work the gun extractor, and when 3 or 5 has put in the tube, closes it carefully to avoid jarring the tube.

3 or 5 then provides himself with a lanyard and 2 cocks the striker. 3 or 5 hooks the lanyard, calls "*Ready*" and stands by to fire on the order "*Fire*" from the Layer.

At "*Battery Fire*" the lanyard is not hooked nor "*Ready*" called until "*Fire A. 1*" has been ordered by the G.G.C.

MAKE SAFE.

G.G.C.
"*A Group, Make Safe.*"

G.C.
"*A. 1, Make Safe.*"

Electric firing.—

2 pulls the lever towards him sufficiently to break the circuit.

Percussion firing.—

3 or 5 unhooks the lanyard, 2 opens the breech and releases the striker.

NOTE.—*To continue after "Make Safe" has been ordered, 2 closes the breech carefully to avoid jarring the percussion tube, and recocks.*

STAND FAST.

G.G.C.
"*A Group, Stand Fast.*"

G.C.
.....

Every number stands fast.

NOTE.—*In peace practice the bugle call "Stand Fast" is acted upon at once by everyone, and is followed by the order "Make Safe" from the G.G.C.*

TO LAY AND FIRE.**General Instructions for Laying and Firing.**

The words "*yards*," "*clicks*," "*deflection*," and "*minutes*" are understood and are never given.

Corrections to tide levers are repeated and set by the Auto-Layer.

Corrections for range and deflection are repeated and applied if possible by the **Setters**, if not possible, then the **Layer** repeats and applies.

To enable the **G.G.C.** to hear whether initial corrections are repeated correctly the **Layers** and **Setters** concerned face him and repeat in order from *right to left* throughout the group.

Setters will if necessary pass on orders to the **Layers**.

The **Layer** for Elevation calls "*On*," and after this caution the **Layer** for Line fires or orders "*Fire*."

When changing from one target to another, or whenever quick traversing is required, the breech numbers push on the breech of the gun under the **Layer's** directions ("*Trail Right*" or "*Left*").

When changing from Case II to Auto-sight laying the **Auto-Layer** continues to lay for line until the **Rocking Bar Layer** orders "*Unclamp*." The **Rocking Bar Layer** does not give this order until he has applied the deflection and found the target.

AUTO-SIGHT.

Positions.

Auto-Layer and **Setter** for Range at Auto-Sight.
Rocking Bar Layer at Rocking Bar Sight.

Initial Corrections.

G.G.C. "*A Group Tide Levers.....Ft. Rise (or Fall).*"

Auto-Layer. "*A. 1, Tide Lever.....Ft. Rise (or Fall).*"

G.G.C. "*A Group Lengthen (or Shorten).....[yards or clicks] onyard line.*"

Setter for Range. "*A. 1 Lengthen (or Shorten).....[yards or clicks] on.....yard line.*"

G.G.C. "*A Group [deflection].....[minutes] Right (or Left).*"

R.B. Layer. "*A. 1 [deflection].....[minutes] Right (or Left).*"

Setter for Range. "*A. 1 [deflection].....[minutes] Right (or Left).*"

Layers and **Setter** apply corrections they have repeated and repeat and apply all subsequent corrections.

NOTE.—*If sights have been datumed corrections are applied starting from the false zero marks, if such have been made.*

To Lay.

The **Auto-Layer** lays for elevation and calls "*On*."

The **Rocking Bar Layer** lays for line and fires, or orders "*Fire*."

To Fire.

Electric firing.—

At "*Battery Fire*" when the **G.G.C.** orders "*Fire A. 1,*" 2 closes the breech and calls "*Ready*." The **Auto-Layer** lays for elevation and calls "*On*." At this caution the **R.B. Layer** when layed for line fires.

At "Gun Fire," the G.G.C. orders "A Group, Commence Firing," the breech is closed, the Auto-Layer gives "On" as soon as possible after "Ready" is called, and fire is continued as rapidly as possible.

The order "Commence Firing" from the G.G.C. is not required when changing from Battery Fire to Gun Fire.

Percussion firing.—

Similar to Electric firing except that 3 or 5 hooks the lanyard and calls "Ready," Auto-Layer calls "On," and on the order "Fire" from the R.B. Layer 3 or 5 pulls the lanyard and fires the gun.

CASE I, ROCKING BAR SIGHT.

Positions.

Auto-Layer at Auto-Sight.

Rocking Bar Layer and Setter for Range at Rocking Bar Sight.

Initial Corrections.

G.G.C. "A Group Lengthen (or Shorten).....[yards]."

Setter for Range. "A. 1 Lengthen (or Shorten).....[yards]."

G.G.C. "A Group [deflection].....[minutes] Right (or Left)."

Setter for Range. "A. 1 [deflection].....[minutes] Right (or Left)."

Auto-Layer "A. 1 [deflection].....[minutes] Right (or Left)."

Layer and Setter apply corrections they have repeated and repeat and apply all subsequent corrections.

To Lay.

Auto-Layer "Elevates" and "Depresses" as ordered by the R.B. Layer.

Setter sets the rocking bar sight to the range.

R.B. Layer lays, calls "On" and fires, or orders "Fire," traversing himself and ordering the Auto-Layer to "Elevate" or "Depress" as he considers necessary.

NOTE.—Ranges set by Setter include Gun and Group Difference Corrections, if any.

To Fire.

Similar to Auto-Sight except that R.B. Layer calls "On" and fires, or at Percussion Firing calls "On" and gives the order "Fire."

CASE II.

Positions.

Auto-Layer at Auto-Sight.

Rocking Bar Layer at Elevation Indicator.

Setter for Range where he can see the Range Dial.

Initial Corrections.

G.G.C. "A Group Lengthen (or Shorten).....[yards]."

Setter for Range. "A. 1 Lengthen (or Shorten).....[yards]."

G.G.C. "A Group [deflection].....[minutes] Right (or Left)."

Auto-Layer. "A 1 [deflection].....[minutes] Right (or Left)."

Layer and Setter apply corrections they have repeated and repeat and apply all subsequent corrections.

To Lay.

The R.B. Layer keeps gun layed at elevations called by Setter and calls "On."

The Auto-Layer lays for line and fires or orders "Fire."

NOTE.—Ranges called by Setter include Gun, Group Difference, and Racer Corrections, if any.

To Fire.

Similar to Auto-Sight except that R.B. Layer calls "On" and Auto-Layer fires, or at Percussion Firing orders "Fire."

CASE III P.F.**Positions.**

Auto-Layer at Lower Traversing Wheel.

Setter for Training at Training Dial.

Rocking Bar Layer at Elevation Indicator.

Setter for Range at Range Dial.

Initial Corrections.

G.G.C. "A Group Lengthen (or Shorten).....[yards]."

Setter for Range. "A. 1 Lengthen (or Shorten).....[yards]."

G.G.C. "A Group [deflection].....[minutes] Right (or Left)."

Setter for Training. "A. 1 [deflection].....[minutes] Right (or Left)."

Setters apply corrections they have repeated.

Setter for Range repeats and applies all subsequent corrections for range.

Auto-Layer repeats and applies all subsequent corrections for line to the training arc pointer.

NOTE.—Subsequent corrections for line are ordered in [minutes] "More Right (or Left)."

To Lay.

R.B. Layer keeps gun layed at elevations called by Setter for Range and calls "On."

Auto-Layer keeps gun layed at trainings called by Setter for Training and fires.

NOTE.—Ranges called by Setter for Range include Gun and Racer Corrections, if any.

Trainings called by Setter for Training include Convergence Corrections, if any.

To Fire.

Similar to Auto-Sight except that **R.B. Layer** calls "*On*" and **Auto-Layer** fires, or if he cannot fire owing to the position of the pistol grip and at *Percussion Firing* he orders "*Fire.*"

NOTE.—Setter for Training fires if **Auto-Layer** cannot reach pistol grip.

NIGHT FIRING.

It is most important that **Layers** who are being trained for night firing shall at all times be made to duck their heads and close their eyes on firing when laying through telescopes, *e.g.*, at auto-sight laying the **Auto-Layer** ducks and calls "*On*" and the **R.B. Layer** ducks and fires or calls "*Fire.*"

At Case II laying the **Auto-Layer** ducks and fires or calls "*Fire.*"

AFTER FIRING.

As soon as the gun is fired **3** or **5** unhooks the lanyard (if at percussion firing).

2 opens the breech with his right hand, **4** extracts the empty cartridge case with his left hand, and supporting the centre with his right hand, protected by a sponge cloth, lifts it just sufficiently so as to free the projecting primer or adapter from the horns of the extractor and throws it clear to his left rear.

The gun is at once reloaded.

3 and **5** tuck their lanyards under their belts while loading.

TO UNLOAD (CARTRIDGE ONLY).

G.G.C.		G.C.
" <i>A Group Cartridge only</i>		" <i>A. 1, Cartridge only Unload.</i> "
<i>Unload.</i> "		

2 opens the breech, **3** or **5** takes out cartridge, turns and hands it to **5** or **3**, who hands it to **6**, who replaces it in its box.

NOTE.—A **G.C.** before giving the order to load at night should always search the gun with the stave of the rammer, and if he feels a shell in the bore should at once order "*Cartridge only Load*" and keep the head of the rammer in the breech opening until he sees the cartridge up at the gun ready to be loaded. This procedure prevents double shotting. In the day time he should always look to see that the bore is clear before giving the order to load.

MISSFIRES.

Electric Firing.

If, when the **L**ayer presses the trigger, the gun fails to fire, he releases the trigger and calls out "*Close the Breech.*"

G.C. gives the **L.B.M.** a tap with the rammer, and ascertains by inspection that it is home; he then calls "*Ready.*" After "*On*" has been called the **L**ayer again pulls the trigger and, if the gun again misfires, he holds the trigger pulled while he counts "*One, Two, Three, Four*" aloud, in slow time; if it still fails to fire he releases the trigger and calls "*A. 1, Missfire.*"

The **L**ayers continue to follow the target.

The **G.C.** then orders "*Stand Clear*" and all the numbers stand clear.

The **G.C.**, 2 and 3 look round the circuit, keeping clear of recoil. They carry this out as follows:—

- (i) If no deflection is given by the pistol grip they look for a break in the circuit, and see if the fault can be found and corrected (such as lever breech mechanism not home, contacts or binding screws loose). The fault, if found, is remedied and fire continued.
- (ii) If a deflection is given by the pistol grip they look for a short circuit, and if found, they remedy it and continue firing.

NOTE.—*If the fault is found and cannot be quickly remedied a change is at once made to percussion firing.*

*If the fault cannot be found the detachment, except the **L**ayers and **S**etters "*Take Cover*" by order of the **G.C.***

NOTE.—"*Take Cover*" does not mean taking up "*Positions under Cover,*" but means going to positions of safety should the gun happen to fire. Cartridges will also be put in a position of safety. A sentry should, in addition, be detailed to prevent persons interfering with the gun.

In peace practice the **L**ayers keep the gun layed in a safe direction. (In war the safest direction is that of the vessel being engaged.)

After a pause of five minutes the **G.C.** places himself clear of, and in front of the breech on the left side and opens the breech by applying the rammer to the lever breech mechanism.

After a further pause of one minute the **G.C.**, still keeping clear of the breech, removes the cartridge with extractor, and has it placed on one side clear of the gun.

NOTE.—*During any long pause in the firing (or in peace practice at the conclusion of practice) the primer is removed and examined. If it has not fired it is exchanged, and set aside for special examination; if it has fired, the cordite will be destroyed and the case with primer returned in the usual way. A cartridge fitted with an adapter and electric tube is treated in the same way.*

Instructions for the destruction of Cordite are contained in the Regulations for A.O. Services, Part II.

The **L**ayer and **G.C.** then test the circuit as follows:—

(If a short circuit which could not be traced under (ii) above is suspected the **G.C.** removes the striker and looks for a blowback, remedies it if found, and replaces striker.)

G.C. closes the lever with the breech in the open position and calls "*Test.*"

Layer presses the lever indicator of pistol grip.

If there is a deflection **L**ayer calls "*Deflection.*" This denotes a short circuit and **G.C.** orders "*Change to Percussion—Cartridge only Load.*"

If there is no deflection **L**ayer calls "*No Deflection.*" This is correct.

G.C. then short circuits needle to breech screw and again calls "*Test.*"

If there is no deflection **L**ayer calls "*No Deflection.*" This denotes a break in the circuit and **G.C.** orders "*Change to Percussion—Cartridge only Load.*"

If there is a deflection **L**ayer calls "*Deflection.*" This is correct and **G.C.** orders "*Electric Firing,—Cartridge only Load.*"

NOTE.—It is most important that percussion firing should not be resorted to except as a last resource, and every care should consequently be taken of the firing circuit. At the same time, it is even more important that guns should be kept in action. If, therefore, a missfire occurs, steps should at once be taken to see whether the fault lies in the primer (or tube) or the circuit, and if the latter (if not immediately remediable) change should at once be made to percussion firing, and at the first pause in the firing, the fault should be discovered and rectified.

Percussion Firing.

If, when **3** or **5** pulls the lanyard, the gun fails to fire, **3** or **5** unhooks the lanyard and calls out "*Close the Breech.*" **G.C.** gives the **L.B.M.** a tap with the rammer, ascertains by inspection that it is home, and cocks the striker with the hook on the end of the rammer.

3 or **5** rehooks the lanyard and calls "*Ready.*" The **L**ayer then again orders "*Fire*" after "*On*" has been called, and if the gun again missfires **3** or **5** calls "*A. 1, Missfire.*"

The **G.C.** then orders "*Take Cover,*" and the detachment, except the **L**ayers and **S**etters, take cover.

The **L**ayers keep the gun layed in a safe direction.

The procedure then is the same as for electric firing. After the cartridge has been extracted the striker and tube are examined. If the tube has not been struck the striker is changed, if the tube has been struck, a new cartridge and tube are loaded, the breech closed, and the cartridge tried. Should this also missfire, after a further pause as for electric, the striker is removed and changed.

CASUALTIES.

G.G.C. by the senior **G.C.** in the group.
G.C., **Layers**, **Setters**, and loading numbers by named successors, who are generally employed in the detachment among the higher numbers supplying ammunition under cover.

NOTE.—Any stores which are being used by a number who is casualtied will be left by him on the gun floor or will be taken from him, e.g., at percussion firing the lanyards used by 3 and 5, and the extractor used by 4.

CEASE FIRING, REPLACE STORES.

(At drill the gun, if loaded, is unloaded.)

The **L**ayer laying for elevation, depresses the gun. The dials are run back to stops, the **S**etters checking them. The gun is stripped of its stores by the numbers who put them on, is then washed out, if necessary, and the breech closed. The detachment stands round and replaces the covers, 2 the breech cover, 3 the muzzle cover, the remainder the gun cover.

The numbers pick up the stores they brought up when preparing for action, fall in at "*Detachment, Rear*," and are marched back to the store. Stores are handed in, checked, and the **G.C.** collects reports as to deficiencies.

MISHAPS WHICH MAY OCCUR, AND DRILL FOR OVERCOMING THEM.

Dropped shell.—

If at "*Gun Fire*" 3 drops a projectile when loading it, 5 hands him the cartridge, which he (3) turns end for end. 5 then picks up his shell and loads it, and 3, having in the meantime walked round in rear of 5, hands him the cartridge back again. The dropped shell is picked out of the way at the first convenient pause.

Dropped cartridge.—

If a cartridge is dropped, another cartridge is at once handed up.

NOTE.—A dropped primer or electric tube should never be used until it has passed the Continuity Test.

Stiff breech.—

4 assists 2.